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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
10/582,536	06/09/2006	Toru Shoji	TAN-123	9992		
54630	7590	06/17/2009	EXAMINER			
ROBERTS & ROBERTS, LLP ATTORNEYS AT LAW P.O. BOX 484 PRINCETON, NJ 08542-0484				WYSZOMIERSKI, GEORGE P		
ART UNIT		PAPER NUMBER				
1793						
MAIL DATE		DELIVERY MODE				
06/17/2009		PAPER				

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/582,536	SHOJI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	George P. Wyszomierski	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 02 April 2009.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1 and 3-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1 and 3-20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____ .

1. Claims 1 and 3-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term “moldedly solidifying” in step (c) of instant claim 1 and elsewhere in the present application is not a standard term in the art, and thus its definition is ambiguous. Therefore claim 1 and any claims dependent therefrom are considered to be *prima facie* vague and indefinite.

This term has been amended from a different term which the examiner had found to render the claims deficient under 35 USC 112, and Applicant asserts that use of the new term overcomes the rejection under 35 USC 112. The examiner respectfully disagrees because:

a) No actual definition of this term has been asserted by Applicant, and none has been found by the examiner after consulting several reference manuals. Further, the examiner has performed a search for the term “moldedly adj solidif\$9”, i.e. the word moldedly followed by the word solidif... with anywhere from 0-9 letters after the “f”. After searching across a number of databases for this term, including U.S. Patents, U.S. Pre-Grant Publications, Derwent World Patents Index, EPO and JPO Abstracts, and IBM Technical Disclosure Bulletins, no documents have been found that include that term in those databases.

b) The present specification suggests that one embodiment of “moldedly solidifying” would be sintering. However, sintering is not equivalent to either molding or solidifying, and it is unclear what other operations besides sintering would or would not fall within the scope of the term as claimed.

In addition to the above, claims 7, 8, 11, and 18 are dependent upon canceled claim 2. Claims 10, 13, 15 and 20 are then dependent upon one of these claims. It is thus unclear how or whether these claims further limit the subject matter of a previous claim.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 and 3-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krotz et al. (U.S. Patent 5,915,160) in view of Newkirk et al. (U.S. Patent 5,007,476).

Krotz et al. discloses a process substantially as claimed, i.e. forming a powder of a material that meets the limitations of instant claims 5, 6, and 11-20 (such as gold and a dilute element such as a rare earth element), oxidizing this material in a ball mill, followed by consolidating (taken by the examiner to be substantially equivalent to "moldeedly solidifying"). The ball mill used in the Krotz process would appear to meet the definition of an "attritor" as presently claimed. With regard to instant claims 4, 8, 9 and 10, this product can then be extruded; see Krotz column 3, lines 29-30.

Krotz does not disclose that the ball mill includes water as required by the instant claims. Newkirk indicates that it was known in the art, at the time of the invention, to include water in a ball mill used to form oxidized metal matrix composite materials; see Newkirk column 33, lines 54-67. With respect to claims 3 and 7, any water used in the prior art process is held to be

"ultrapure", in the absence of any numerical or other objective definition of this term. It would have been obvious to one of ordinary skill in the art, carrying out the process of Krotz et al., to include water in the ball mill as taught by Newkirk et al., in order to ensure proper oxidation of the material undergoing the milling process.

4. In the response filed April 2, 2009, Applicant asserts that the claimed invention can be distinguished from the prior art in that the attritor or other types of mills recited in instant claim 1 are distinct from those used in the Krotz process, and/or that the purpose of the water as used by Newkirk is different from its purpose in the present invention. Applicant's arguments have been carefully considered, but are not persuasive of patentability because:

a) With regard to the type of mill employed, Applicant contends that the prior art does not use the presently claimed "high-energy" mill. However, it is unclear how much energy would be required to result in a "high-energy" mill, and in any event no specific difference has been shown between the stirring power or other energy aspects of the mill used by Krotz and that used in the claimed process.

b) With regard to the water, the instant claims state that one oxidizes a material by introducing the material into a mill with water. Newkirk clearly introduces water into a mill for the purpose of forming oxidized metal matrix composite materials. The examiner's position is that the water of Newkirk would have the effect of oxidizing materials that it comes into contact with in the mill of the prior art.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/George Wyszomierski/  
Primary Examiner  
Art Unit 1793